Great Salt Lake Fuels Industry in Utah

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ry wheat, coal, automobiles, fruits and vegetables, heavy machinery and ore.

"It's valuable," said Carolyn Born, a spokesperson for Southern Pacific. "It's our link in and out of Ogden by way of the lake. Under a worse case situation, we might gain access to another railroad line. But it would cost us more."

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Perhaps the biggest Great Salt Lake industry is tourism. But the fickle nature of the lake has made life difficult for state park rangers, boaters, wildlife refuge managers and concession operators.

"For the last 10 years, it hasn't been a priority to get travelers to the lake because of conditions," said Dave Porter of the Utah Travel Council. "They couldn't get out to Antelope Island. There wasn't much to do on the south shore. Visitors loved going out there before the flooding. We flat out tell people that conditions are not as good as they used to be."

But there seems to be growing support for building tourism infrastructure on the lake, both by the state and by private developers. Davis County and Salt Lake County both want to build visitor centers. The Division of Parks and Recreation is asking for funds to develop tourist facilities on both Antelope Island and the South Shore.

"If we could complete a loop road from Syracuse to Antelope Island which would exit on the South Shore, it would be great," said Porter. "The potential is great for tourism."

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Industry affects the lake in many ways. The creation of Willard Bay, the diking of fresh water for waterfowl refuges, the construction of causeways and the building of ponds for the mineral industry — all change the lake. Magnesium Corporation of America, which puts 61 million pounds of chlorine gas into the air each year, is one of the nation's worst polluters.

Coordinating these conflicting activities is difficult, but important if the state wants to benefit economically from what the Great Salt Lake has to offer.

Flandro leads a 29-member committee of industry leaders, conservationists and historians interested in the lake. The committee's draft of the Great Salt Lake General Management Plan will be issued for public review early in 1993.

Lake Pumps Available If Need Arises Again

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the lake level dipped six feet from its peak of 4,211.85 feet above sea level, reached in June of 1986 and again in March of 1987. The pumps received credited for one-third of the decline.

The U.S. Geologic Survey dubbed the lake created by the pumps Newfoundland Evaporation Pond and the canal the Rio Buenaventura. Many locals, though, called the new body of water "Lake Bangerter" in honor of Gov. Norm Bangerter. The governor, who pushed the project, took an enormous amount of criticism for wasting tax dollars when the lake began to recede.

Palmer defends the project. He compares the pumps to a homeowners insurance policy.

"Most of the time, you pay insurance costs that you wish you didn't have to pay," he said. "But you never know when your house might catch fire. It's the same with the pumps."

The pumps, which are not accessible to the public, now sit idle. Some parts have been put into crates. Nitrogen gas has been pumped into pipes to prevent rust. Some moving parts are checked and replaced.

"If we come up with another wet cycle, they are here," said Palmer. "They could be ready in eight weeks. If they were used one more time, they would more than pay for themselves. And they did some good the first time."

Lake Industry Produces Several Salts of the Earth

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main dike gave way on May 5, 1984. The only thing that kept the company alive for four years was the $56 million in flood insurance it collected.

The operation now employs 375 workers. It hires 100 more contractors.

The company sells its products all over the United States and to Japan, China, South America, India, Indonesia and Australia.

Though 32 different minerals can be collected from Great Salt Lake brine, Behren's company is primarily interested in:

- Potassium sulfate: This is the most profitable mineral, and is used primarily as fertilizer.
- Sodium chloride: This is basic salt and has many uses: in pellet form for cattle feed, as brine used by food processors, for water softeners, as highway salt and for industrial uses. The company doesn't process table salt.
- Sodium sulfate: This mineral is a basic ingredient in laundry detergents and glass.
- Magnesium chloride: This chemical is sold in a dry flake and is used for a variety of industrial purposes, including helping create "sea water" at Sea World in San Antonio.

The process — which is not duplicated anywhere else in the world — relies on a massive system of diked ponds. The older part of the operation, on the east side of the lake, consists of 100 ponds — most only a foot deep — covering 19,000 acres, an area larger than San Francisco.

A newer operation consists of 17,000 acres of ponds near Lakeside on the west side of the lake. When brine in those ponds reaches the correct mineral concentration, it is allowed to flow 21 miles in an open canal beneath the lake's surface to the older ponds. The heavier brine does not mix with the water above it. It takes from six to 10 days for the brine to move the 21 miles.

The operation is massive. Consider some of these figures:

- The solar energy which helps evaporate the brine would require 35,000 tons of coal a day to produce. That's five times as much coal as the Intermountain Power Plant utilizes near Delta.
- On a hot summer day, 200 tons of water per minute evaporate from the ponds. That can drop the temperature at the plant up to 8 degrees.
- Of the 4 to 6 million tons of material produced from the brine each year, half will be salt. Much of this salt will be pumped back into the south arm of the lake.
- Hauling minerals to far off places costs almost as much as producing them. The company purchases 200,000 wooden pallets annually.
- About 3.5 million tons of profitable minerals are harvested from October to May. Specially built salt harvesters are used. Heavy machinery capable of lifting 5 tons of material at a time fill the 120 trucks used in the operation. Each of those trucks holds between 30 and 35 tons. One loader filled 96 trucks in a single 10-hour shift.

Mechanically, the plants which produce the mineral products are simple. From a chemical standpoint, however, the production is extremely complicated.

"Nobody else in the world does this," said Behrens. "We are the only place in the world producing potash from natural brine.

"It's frustrating to face mother nature. But things are never the same. You find a new challenge every day."